NCDENR
North Carolina Department of Environment and Natural Resources
Dexter R. Matthews, Director
Division of Waste Management
Michael F. Easley, Governor
William G. Ross Jr., Secretary

May 31, 2005

Ms. Jennifer Wendel
NC Site Management Section
US EPA Region IV Waste Division
61 Forsyth Street, 11th Floor
Atlanta, GA 30303

Subject: Site Re-Assessment Report
Willard Smelting Co.
Charlotte, Mecklenburg County, NC
US EPA ID: NCD 003 151 651

Dear Ms. Wendel:

The following is a Site Re-Assessment Report (SRR) completed by the NC Superfund Section for the Willard Smelting Company (Willard) facility located in Charlotte, Mecklenburg County, NC. The purpose of this SRR is to update the status of the site and to re-evaluate the threat to human health and the environment in order to determine the need for additional assessment under CERCLA. The information presented in this investigation was obtained through the review of available file documents, an off-site reconnaissance, and a sampling event utilizing a x-ray fluorescence (XRF) meter. Based on the results of this SRR, the site is recommended for no further remedial action under CERCLA.

Site Location, Description, and Operational History

The site is located at 101 New Bern Avenue in Charlotte, Mecklenburg County, North Carolina (Fig. 1). The partially fenced site covers approximately 4.78 acres. Numerous metal buildings occupy the property including an office building, two warehouses, a rolling mill, a machine shop, a fabrication shop, a casting area, and a keel production building (Fig. 2). The site is bordered to the north and east by New Bern and Foster avenues, a new City of Charlotte bus transit station to the west, and the former Southern railway to the south and east. The former Southern railway is in the process of being converted into a light rail transit system with a station located at New Bern Avenue. The areas adjacent to the site are primarily commercial and industrial with one exception

being 3030 South, a new condominium and townhouse complex located on the south side of the future light rail transit system right of way. Corresponding geographic coordinates for the site are 35.1995° north latitude and 80.8705° west longitude (Ref. 1).

The Willard Smelting Company is an inactive lead smelting facility that began operations in 1939 and continued until June 1982. Since 1982 the site has been leased to a variety of companies for various manufacturing activities. Currently, there are no operating businesses located at the site. However, during a recent site visit some loading activities were witnessed on the front of the property along Foster Avenue. The current property owner is listed as New Bern Street Realty Company Inc. (NBSR). Mr. Kenneth Coe (Moore and Van Allen) and Apex Environmental Inc. represent NBSR on estate and environmental matters for the property.

Previous CERCLA Investigations

In December 1985, the NC Solid and Hazardous Waste Management (SHWM) Branch submitted a Preliminary Assessment (PA) to EPA Region IV (Ref. 2). Due to uncertain waste disposal practices in the past, the SHWM branch assigned a medium priority to the site. In September 1986, a Site Inspection (SI) report was submitted to EPA Region IV (Ref. 3). No soil or water samples were collected during the SI. CERCLA archived records list the site with a status of NFRAP in March 1987.

Due to analytical data confirming elevated lead contamination (1,100 – 36,000 parts per million) in a nearby run-off drainage ditch, the NC Hazardous Waste Section (HWS) issued Willard a Notice of Violation (NOV) on June 14, 1994 (Ref. 4). Based on the new data, the NC Inactive Hazardous Sites Branch (IHSB) re-evaluated the site using a special priority system (NCAC Title 15A Subchapter 13C Section 0.200). Currently, the site is still listed on NC IHSB State Priority List.

Previous RCRA Investigations

On June 14, 1994, the NC Hazardous Waste Section submitted a NOV letter to Willard Industries (Ref. 4). Representatives from the NC HWS collected sediment samples from a stormwater runoff ditch located on the south side of the property. The samples contained total lead concentrations as high as 61,000 ppm and toxicity characteristic leaching procedure (TCLP) concentrations of 585 ppm. In response to the new analytical data, Willard retained National Environmental Technologies, Inc. (NET) to immediately characterize and remove the lead-contaminated soil.

NET began removal activities on August 16, 1994. The lead-impacted soil was treated on site with Maepric to reduce the leachability of the total lead. Confirmation samples revealed that the treated soil passed TCLP tests and was clear for disposal in a Subtitle D landfill. A total of 311 tons of soil was removed from the drainage ditch.

Final remediation activities included backfilling with clean fill material and capping with concrete/asphalt to inhibit lead migration (Ref. 7).

In September 1999, Mr. Dennis Tyndall (Charlotte/Mecklenburg County) called Jeanette Stanley (NC Superfund Section) to report the presence of 35 drums in an unused portion of the Willard facility (Ref. 8). NC HWS representative Joe Parker visited the site on September 22, 1999 with Mr. Tyndall to assess the situation. At this time, a portion of the facility was being leased to SouthCraft Alliance. Mr. Chuck Simcox who oversaw all SouthCraft Alliance activities at the Willard facility took care of all waste materials and provided disposal manifests to Mr. Parker at the completion of the removal (Ref. 9).

Current Regulatory Status:

- RCRA

  Willard is not listed as a hazardous waste generator. A former lessee (Mayfield Mfg. Co.) previously located at the site was classifed as a conditionally exempt small quantity generator (cesqg). The last inspection was in 1994 and the site information has not been updated since 1994 (Ref. 10).

- CERCLA

  Willard is listed as an archived non-NPL site under CERCLA. This deposition was assigned to the site on March 12, 1987 (Ref. 11).

In January 2005, while investigating former lead smelting facilities, the NC Superfund Section discovered that the properties adjacent to Willard were being developed into high-density residential condominiums and townhouses (3030 South) (Ref. 5). On March 1, 2005, as part of a site re-assessment under CERCLA, the NC Superfund Section analyzed 14 sample locations of surface soils between Willard and 3030 South (Ref. 6). The samples were analyzed in-situ with an XRF meter.

XRF meter results indicated that elevated levels of inorganic contaminants (arsenic, cadmium, chromium, copper, lead, manganese, and mercury) were present in surface soils along the southeast portion of the property (Table 1). Contaminants were mostly concentrated in three locations: along an old railroad track spur, beneath an air stack, and along a soil berm. All of the above locations are within 200 fect of the main lead casting and dross storage areas. Lead was measured at 137,186 milligrams per kilogram (mg/kg) along the railroad track spur near an unloading area. The surface soil samples collected near the future light rail transit system and nearby condos contained lead concentrations ranging from 146 mg/kg to 452 mg/kg. The NC IHSB soil remediation goal (SRGs) for lead is 400 mg/kg. Concentrations of arsenic, manganese, and mercury were also identified in this location above NC IHSB SRGs.

Source Area

Surfaces soils containing elevated levels of inorganic contaminants (arsenic, cadmium, chromium, copper, lead, manganese, and mercury) was discovered on March 1, 2005 along the southeast portion of the property (Table 1). XRF meter readings revealed lead and arsenic concentrations as high as 137,186 mg/kg and 8,436 mg/kg, respectively. The highest readings were obtained at three locations: along an old railroad track spur, beneath an air stack, and along a soil berm. All of the above locations are very close to the main casting and lead dross storage areas (Fig. 2). The vertical extent of the contamination is unknown. However, the lateral extent of the contamination appears to be concentrated near the above mentioned locations (Fig. 3).

Groundwater Pathway

During the 1986 PA, the NC Superfund Section identified one municipal water system (Charlotte-Mecklenburg Utilities Department) that delivered drinking water to residents within a 4-mile radius of the site. Charlotte-Mecklenburg obtains water from sources outside the 4-mile radius study area (Ref. 12). The nearest private and community wells are unknown at this time, however, no wells were discovered within a ¼ mile radius during recent reconnaissance activities.

Surface Water Pathway

Stormwater runoff from the facility was once believed to be controlled on site and diverted to the city sewer, however, this was not the case as revealed during the adjacent drainage ditch remediation. A recently constructed drainage system conveys stormwater runoff to an unnamed tributary to Irwin Creek.

The surface water pathway begins with an overland flow segment of approximately 0.25 miles. This segment is comprised of a network of underground concrete culverts and drop inlets. The probable point of entry (PPE) to a perennial stream occurs at the exit of the concrete culverts located near the Marie G. Davis Elementary School, just northwest of Tryon Road. This unnamed tributary to Irwin Creek, which is lined with Hazard Ranking System (HRS) qualifying wetland frontage, flows approximately 0.66 miles downstream to Irwin Creek. Irwin Creek then joins up with Sugar Creek approximately 2.08 miles downstream. Sugar Creek is used for recreational fishing and is also lined with HRS wetlands. Sugar Creek carries flow beyond the 15-mile surface water pathway. No surface water intakes are located within the 15-mile surface water pathway (Ref. 12).

On February 3, 1995, NET collected surface water and sediment samples from tributaries to Irwin Creek (Ref. 13). Analytical data revealed arsenic (0.016 mg/L) and lead (0.014 mg/L) in aqueous sample ST-1, and arsenic (6.2 mg/kg) and barium (55 mg/kg) in sediment sample SED-1 (Fig. 1). Under the current HRS the above

concentrations are considered observed releases to 0.1 miles of HRS wetland frontage. Due to the formidable problem of assigning attribution to the site due to unknown contributions from the surrounding area (commercial and industrial) to the stormwater culverts and the denigrated nature of the urban stream, the surface water pathway should not be considered a pathway of concern.

Soil Exposure Pathway

During recent visits to the site, NC Superfund Section personnel has witnessed the construction of 3030 South and a new light rail transit system adjacent to the site. In addition, portions of the chain-link fence surrounding the site are missing and in need of repair. Based on the number of beverage containers and clothing articles present at the drainage ditch it would be safe to assume that the homeless frequent this area and possibly access the former lead-casting buildings for additional shelter.

Conclusions and Recommendation

Based on the SRR results, the NC Superfund Section recommends that the site continue to be assigned a "No Further Remedial Action Planned" status under CERCLA. Based on the recent development in the South End section of Charlottc (3030 South, light rail transit system, etc.) and the presence of several inorganic contaminants discovered in surface soils during a recent XRF in-situ sampling event, the NC Superfund Section recommends that the property owners or future developers of the property address the contamination before siting residences on the property or allowing public access to the source areas.

If you have any questions please contact Jim Bateson at (919) 733-4996 x.290 or by e-mail at james.bateson@ncmail.net.

Sincerely,

Harry Zinn
Environmental Engineer
Site Evaluation and Removal Branch
NC Superfund Section

Jim Bateson, Head
Site Evaluation and Removal Branch
NC Superfund Scction

Attachments

cc: Scott Ross, Superfund File Room
Bruce Reilly, Apex Environmental Inc.

cc: (letter only)
Charlotte Jesneck, NC Inactive Hazardous Sites Branch

TABLES

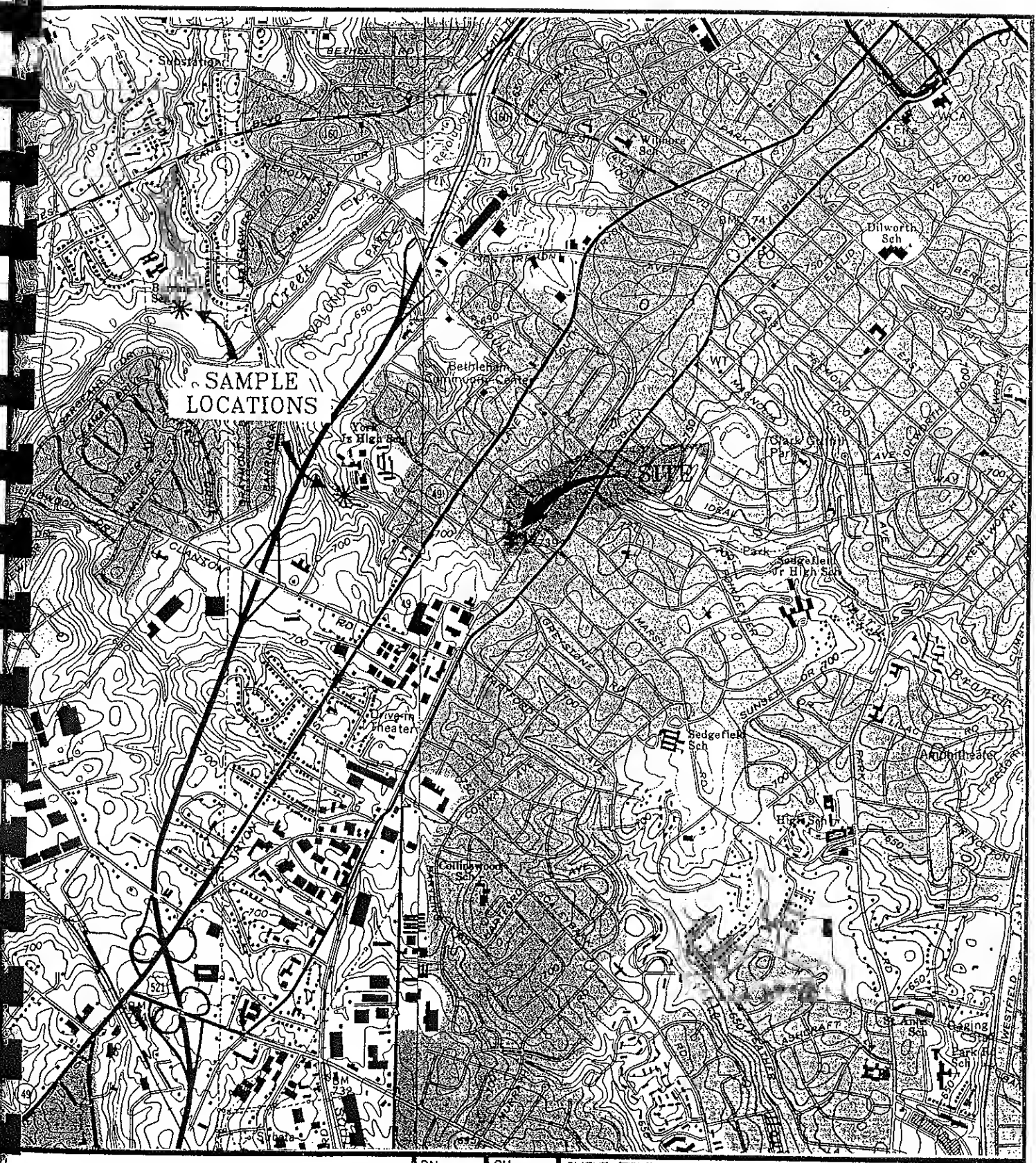
Table 1

Surface Soil XRF Meter Results
Willard Smelting Company, Mecklenburg Co.
March 1, 2005

Compound	ROW-671 (mg/kg)	ROW-674 (mg/kg)	ROW-679 (mg/kg)	ROW-680 (mg/kg)	ROW-681 (mg/kg)	ROW-682 (mg/kg)	ROW-684 (mg/kg)	ROW-685 (mg/kg)	ROW-688 (mg/kg)	ROW-689 (mg/kg)	ROW-690 (mg/kg)	ROW-691 (mg/kg)	ROW-694 (mg/kg)	ROW-695 (mg/kg)	NC SRGs (mg/kg)
Arsenic	**7 +/- 24**	**8 +/- 21**	**7 +/- 22**	0.51	**32 +/- 23**	**84 +/- 32**	**16 +/- 10**	**80 +/- 42**	**-6**	**18 +/- 19**	**8,437 +/- 505**	**326 +/- 101**	**22 +/- 38**	**11 +/- 40**	4.4
Chromium	**51 +/- 112**	8	-25	**138 +/- 97**	8	**49 +/- 77**	**77 +/- 57**	16	**204 +/- 159**	**71 +/- 126**	-40	-54	**33 +/- 92**	-35	30
Copper	14	33	77	49	38	29	-3	20	13	88	**757 +/- 154**	31	28	34	580
Lead	**452**	146	249	130	**921 +/- 27**	**1,475 +/- 38**	151	**1,616 +/- 50**	92	195	**137,187 +/- 598**	**7,127 +/- 121**	**1,577 +/- 46**	**577 +/- 48**	400
Manganese	**757 +/- 170**	330	**790 +/- 214**	**377 +/- 126**	314	**426 +/- 107**	25	**592 +/- 153**	118	201	36	**367 +/- 159**	**396 +/- 123**	**535 +/- 235**	360
Mercury	**15 +/- 8**	1	**15 +/- 10**	**8 +/- 7**	**8 +/- 5**	**11 +/- 6**	**6 +/- 4**	**9 +/- 8**	**13 +/- 11**	**13 +/- 8**	-40	**11 +/- 9**	**12 +/- 8**	**13 +/- 12**	4.6
Nickel	**76**	70	81	54	56	-13	-12	-58	-38	78	**329 +/- 195**	**-16**	55	**169 +/- 119**	320
Zinc	150	93	**96**	100	164	135	71	143	**76**	88	**1,215 +/- 119**	134	205	**523 +/- 73**	4,600

Values in **bold** indicate concentrations greater than the NC Soil Remediation Goals.
Values have been rounded to the nearest integer.

FIGURES



WEST CHARLOTTE QUADRANGLE
EAST CHARLOTTE QUADRANGLE

7.5 MINUTE SERIES (TOPOGRAPHIC)

CONTOUR INTERVAL: 10 FEET
SCALE: 1 : 24,000

ON	CH
KF	MJC

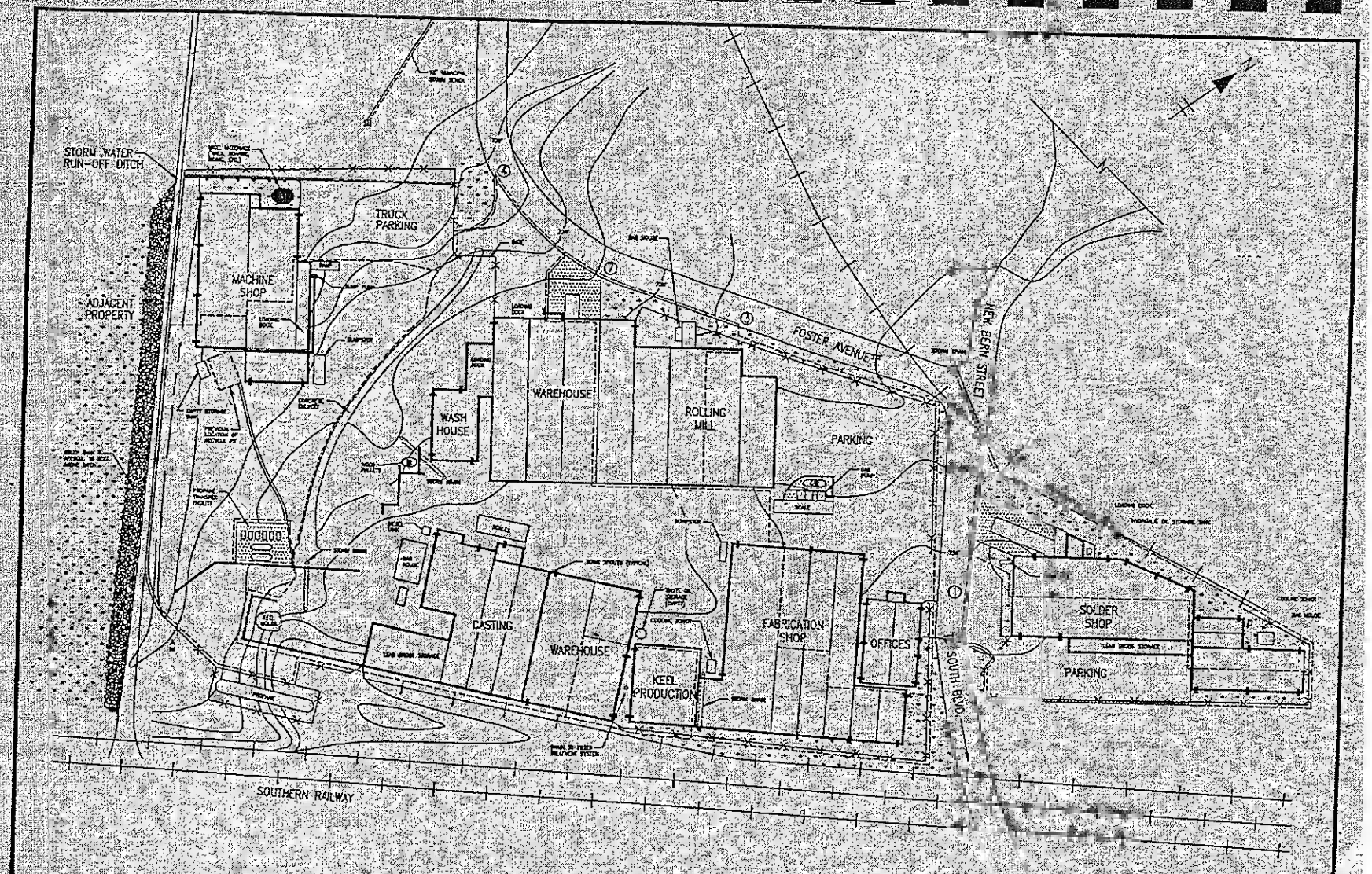
DATE
JULY 11, 1994

CLIENT /TITLE

WILLARD INDUSTRIES
Charlotte, NC

Figure 1 – Topographic Location Map

NATIONAL ENVIRONMENTAL TECHNOLOGIES INC.



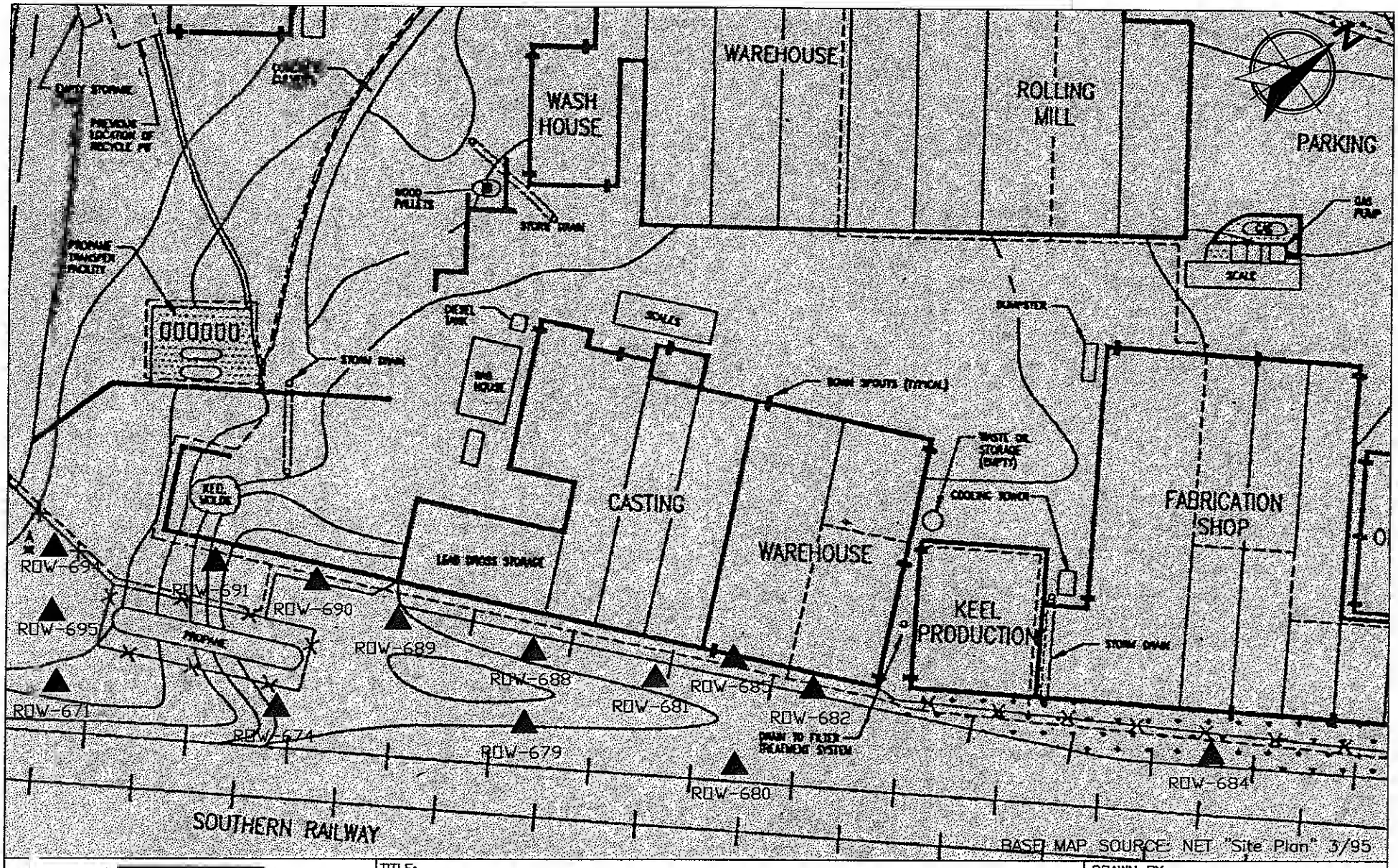
REV.	DATE	DESCRIPTION

NATIONAL ENVIRONMENTAL TECHNOLOGIES, INC.
Charlotte, NC

DRAWN	KF
DATE	3/95
DESIGNED	MC
CHECKED	WJC
SCALE	1=100'

CLIENT/TITLE
WILLARD INDUSTRIES
Charlotte, N.C.
Site Plan
Figure 2

DWG. NO. 077005R01 REV.



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TITLE: XRF SAMPLE LOCATION MAP	DRAWN BY: MSD
SITE NAME: WILLARD SMELTING COMPANY	SCALE: NOT TO SCALE
LOCATION: CHARLOTTE, MECKLENBURG COUNTY, NC	DATE: 3/21/05
US EPA ID: EPA ID: NCD 003 151 651	FIGURE 3